Appl. No. 09/990,940 Amdt. dated August 1, 2003 Reply to Office Action of July 1, 2003

## **Amendments to the Claims:**

This listing of claims will replace all prior versions of claims in the application:

Claims 1-16 (cancelled herein)

- 17. (original) An isolated nucleic acid encoding a G-protein coupled receptor polypeptide, the nucleic acid encoding a polypeptide comprising greater than 85% amino acid identity to an amino acid sequence of SEQ ID NO:16 or SEQ ID NO:18.
- 18. (original) The isolated nucleic acid of claim 17, wherein the nucleic acid encodes a polypeptide having at least 50 contiguous amino acids of an amino acid sequence of SEQ ID NO:16 or SEQ ID NO:18.
- 19. (original) The isolated nucleic acid of claim 17, wherein the nucleic acid encodes a polypeptide that specifically binds to polyclonal antibodies generated against an amino acid sequence of SEQ ID NO:16 or SEQ ID NO:18.
- 20. (original) The isolated nucleic acid of claim 17, wherein the nucleic acid encodes a polypeptide that has G-protein coupled receptor activity.
- 21. (original) The isolated nucleic acid of claim 17, wherein the nucleic acid encodes a polypeptide comprising an amino acid sequence of SEQ ID NO:16 or SEQ ID NO:18.
- 22. (original) The isolated nucleic acid of claim 17, wherein the nucleic acid comprises a nucleotide sequence of SEQ ID NO:15 or SEQ ID NO:17.
- 23. (original) The isolated nucleic acid of claim 17, wherein the nucleic acid is amplified by primers that specifically hybridize under stringent hybridization conditions to a nucleic acid having a nucleotide sequence of SEQ ID NO:15 or SEQ ID NO:17.



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- 24. (original) An isolated nucleic acid encoding a G-protein coupled receptor polypeptide, wherein the nucleic acid specifically hybridizes under stringent hybridization conditions to a nucleic acid having a nucleotide sequence of SEQ ID NO:15 or SEQ ID NO:17.
- 25. (original) An isolated nucleic acid encoding a G-protein coupled receptor polypeptide, the polypeptide encoded by the nucleic acid comprising greater than about 85% amino acid identity to a polypeptide having an amino acid sequence of SEQ ID NO:16 or SEQ ID NO:18, wherein the nucleic acid selectively hybridizes under moderately stringent hybridization conditions to a nucleotide sequence of SEQ ID NO:15 or SEQ ID NO:17.
- 26. (original) An isolated G-protein coupled receptor polypeptide, the polypeptide comprising greater than about 85% amino acid sequence identity to an amino acid sequence of SEQ ID NO:16 or SEQ ID NO:18.
- 27. (original) The isolated polypeptide of claim 26, wherein the polypeptide specifically binds to polyclonal antibodies generated against SEQ ID NO:16 or SEQ ID NO:18.
- 28. (original) The isolated polypeptide of claim 26, wherein the polypeptide has G-protein coupled receptor activity.
- 29. (original) The isolated polypeptide of claim 26, wherein the polypeptide has an amino acid sequence of SEQ ID NO:16 or SEQ ID NO:18.
- 30. (original) An antibody that selectively binds to the polypeptide of claim 26.
  - 31. (original) An expression vector comprising the nucleic acid of claim 17.
  - 32. (original) A host cell transfected with the vector of claim 31.
- 33. (original) A method for identifying a compound that modulates signal transduction, the method comprising the steps of:

- (i) contacting the compound with a polypeptide comprising greater than 70% amino acid sequence identity to the amino acid sequence of SEQ ID NO:2, SEQ ID NO:4, SEQ ID NO:6, SEQ ID NO:8, SEQ ID NO:10, SEQ ID NO:16 and SEQ ID NO:18; and
  - (ii) determining the functional effect of the compound upon the polypeptide.
- 34. (original) The method of claim 33, wherein the polypeptide has G-protein coupled receptor activity.
- 35. (original) The method of claim 33, wherein the polypeptide comprises greater than 70% amino acid sequence identity to the amino acid sequence of SEQ ID NO:8 or SEQ ID NO:10 or greater than 85% amino acid sequence identity to the amino acid sequence of SEQ ID NO:16 and SEQ ID NO:18.
- 36. (original) The method of claim 33, wherein the polypeptide is linked to a solid phase.
- 37. (original) The method of claim 33, wherein the functional effect is determined by measuring changes in intracellular cAMP, IP3, or Ca2+.
- 38. (original) The method of claim 33, wherein the functional effect is determined by measuring binding of the compound to the polypeptide.
- 39. (original) The method of claim 33, wherein the polypeptide comprises an amino acid sequence of SEQ ID NO:8, SEQ ID NO:10, SEQ ID NO:16 and SEQ ID NO:18.
- 40. (original) The method of claim 33, wherein the polypeptide is expressed in a cell or cell membrane.
- 41. (original) The method of claim 40, wherein the cell is selected from the group consisting of an adipocyte cell, a spleen cell, a colon cell, a kidney cell, a neuron, a skeletal muscle cell, an ocular cell, a retina cell, a hypothalamus cell, and a tongue cell.

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- 42. (original) A method of identifying a mammal having a TGR-associated disorder, comprising detecting a TGR nucleic acid molecule in a sample from the mammal, wherein said TGR nucleic acid molecule is a nucleic acid comprising greater than 70% nucleic acid sequence identity to the nucleic acid sequence of SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:5, SEQ ID NO:7, SEQ ID NO:9, SEQ ID NO:15 and SEQ ID NO:17, and wherein abnormal expression of the TGR nucleic acid molecule in the sample indicates that the mammal has a TGR-associated disorder.
- 43. (original) The method of claim 42, wherein the TGR nucleic acid molecule comprises greater than 70% nucleic acid sequence identity to the nucleic acid sequence of SEQ ID NO:7, SEQ ID NO:9, SEQ ID NO:15 and SEQ ID NO:17.
- 44. (original) A method of identifying a mammal having a TGR-associated disorder, comprising detecting a TGR polypeptide in a sample from the mammal, wherein the TGR polypeptide comprises greater than 70% amino acid sequence identity to the amino acid sequence of SEQ ID NO:2, SEQ ID NO:4, SEQ ID NO:6, SEQ ID NO:8, SEQ ID NO:10, SEQ ID NO:16 and SEQ ID NO:18, and wherein abnormal expression of the TGR polypeptide in the sample indicates that the mammal has a TGR-associated disorder.
- 45. (original) The method of claim 44, wherein the TGR polypeptide comprises greater than 70% amino acid sequence identity to the amino acid sequence of SEQ ID NO:8, SEQ ID NO:10, SEQ ID NO:16 and SEQ ID NO:18.
- 46. (original) A method of treating or preventing a TGR-associated disorder, comprising administering a therapeutically effective amount of a modulator identified using the method of claim 33 to a mammal in need thereof.
- 47. (original) A method of treating retinitis pigmentosa, the method comprising the step of administering to a patient a compound that modulates the activity of TGR60.

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- 48. (original) A method of regulating circadian rhythms, the method comprising the step of administering to a patient a compound that modulates the activity of TGR60.
- 49. (new) The isolated nucleic acid of claim 17, wherein the nucleic acid encodes a polypeptide comprising great than 90% identity to an amino acid sequence of SEQ ID NO:16 or SEQ ID NO:18.
- 50. (new) The isolated nucleic acid of claim 17, wherein the nucleic acid encodes a polypeptide comprising great than 95% identity to an amino acid sequence of SEQ ID NO:16 or SEQ ID NO:18.
- 51. (new) An isolated nucleic acid encoding a polypeptide comprising at least 50 contiguous amino acids of an amino acid sequence of SEQ ID NO:16 or SEQ ID NO:18, wherein the polypeptide has GPCR activity.
- 52. (new) The isolated nucleic acid of claim 51, wherein the nucleic acid encodes a polypeptide comprising at least 100 contiguous amino acids of an amino acid sequence of SEQ ID NO:16 or SEQ ID NO:18.
- 53. (new) The isolated nucleic acid of claim 51, wherein the nucleic acid encodes a polypeptide having at least 200 contiguous amino acids of an amino acid sequence of SEQ ID NO:16 or SEQ ID NO:18.
- 54, (new) The isolated nucleic acid of claim 51, wherein the nucleic acid comprises at least 100 contiguous nucleotides of SEQ ID NO:15 or SEQ ID NO:17.
- 55. (new) The isolated nucleic acid of claim 51 wherein the nucleic acid comprises at least 600 contiguous nucleotides of SEQ ID NO:15 or SEQ ID NO:17.